UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

EPA Region 5 Records Ctr.
269375

REPLY TO THE ATTENTION OF

SE-5J

MEMORANDUM

DATE: NOV 0 7 2006

SUBJECT: ACTION MEMORANDUM – Determination of Threat to Public Health or the Environment at the Lindsay Light II Site/245 East Ohio, Chicago, Cook County, Illinois (Site Spill ID #YT, OU 06)

FROM: Verneta Simon, On-Scene Coordinator Verneta Simon
Emergency and Enforcement Response Branch II, Response Section III

TO: Richard C. Karl, Director
Superfund Division

I. PURPOSE

The purpose of this Memorandum is to document the determination of an imminent and substantial threat to public health and the environment posed by the existence of radioactive thorium-contaminated soils at 245 East Ohio ("Site"). This property is located at the southwest corner of the intersection of East Ohio and North Fairbanks Court and is an active pay surface parking lot and also contains a metal building housing a hot dog stand.

This site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD 0000002212

Please refer to the previous Action Memoranda dated July 11, 1994, October 5, 1995, April 22, 1996, September 22, 1999, March 28, 2000, March 1, 2001, July 17, 2002, and July 18, 2005 for a description of site conditions and background. Action memoranda and administrative records are fully incorporated by reference into this document.

On September 28 and 29, 2000, U.S. EPA conducted a surface radiological survey of this parking lot and encountered elevated gamma readings in three locations. Results from this September 2000 survey were provided to the owner via letter dated December 1, 2000, and is contained in the Administrative Record. Action was immediately taken in

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2001 to confirm the presence of radioactive soil in at least two areas along the western portion of the Site. One of these locations is distinctly elevated from background levels and is towards the west side of the lot, beneath the parking spaces near the adjacent building wall. The other two areas of elevated readings are near the south-center of the lot and on the southeast corner of the lot, along the barricade. Since 2001, the property has remained a parking lot. For each of the last three years, however, the owner and a developer have informed U.S. EPA that they intended to begin developing the property during the then current construction season. The property owner has conducted at least two subsurface investigations, met with U.S. EPA on a least two occasions, November 19, 2002 and February 25, 2003. The property developer has submitted draft work plans on February 27, 2004, and October 18, 2006.

On June 21, 2006, a notice letter was sent to the current owner, LaSalle Bank National Trust as Successor Trustee to American National Bank and Trust Company of Chicago under Trust No. 39369 dated October 27, 1976 ("LaSalle Bank Trust"). On August 21, 2006, U.S. EPA sent demand letters for our costs to date on this property to the LaSalle Bank Trust, Tronox, and Kerr-McGee and the demand was paid in full. In October 2006, the environmental consultant for the owner and developer informed U.S. EPA that they again plan to begin developing the property by May 2007.

Lindsay may also have used the now defunct Chicago Tunnel System for delivery of monazite ore or transportation of radioactively contaminated mill tailings, off-spec mantles, or radiologically contaminated ash from its incinerator. Since records detailing fill activities do not exist we are also undertaking discussions with the Illinois State Geological Survey (ISGS) to conduct a historical fill study and discussions with U.S. EPA's Environmental Photographic Interpretation Center (EPIC) to perform aerial interpretation.

An environmental justice (EJ) analysis was performed for this site and is contained in Attachment I. In Illinois, the low-income percentage is 27% and the minority percentage is 32%. To meet EJ concern criteria, the area within 1 mile of this property must have a population that is twice the state low income percentage or/and twice the state's minority percentage. That is, the area must be a least 54% low-income and/or 64% minority. At this Site, the low-income percentage is 11% and minority percentage is 23%, as determined by Arcview. Therefore, this Site does not meet the Region's EJ criteria based on the demographics as identified in "Region 5 Interim Guidelines for Identifying and Addressing a Potential EJ Case, June 1998."

III. THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Lindsay Light II Site/245 East Ohio may pose an imminent and substantial endangerment to public health or welfare or the environment, based upon factors set forth in the National Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) § 300.415 (b)(2). These factors include:

a) Actual or potential exposure to nearby populations, animals, or the food chain from hazardous substances or pollutants or contaminants:

245 East Ohio is immediately north of the Lindsay Light II/RV3 North Columbus Drive Site (AKA Grand Pier). Approximately 10,000 cubic yards of thorium-contaminated soils were excavated from the Lindsay Light/RV3 North Columbus Drive Site. In addition, for most of the 20th Century, the block bounded on the north by Grand Avenue and on the south by Illinois Street, was one long continuous block from about Peshtigo Court to St. Clair Street without the cross streets of McClurg Court and Columbus Drive. This block existed in this form until about the 1980's.[1] More than 30,000 cubic yards of thorium-contaminated soils have been removed from this area alone. Earlier this year, on or about May 1, 2006, thorium-contaminated soils also were discovered immediately north of and across the street from 245 East Ohio at the property located at 252 East Ohio (aka 660 North Fairbanks). Therefore, U.S. EPA anticipates that radioactive contamination will be identified north of the Lindsay Light II/RV3 North Columbus Drive Site once intrusive work is conducted.

The potential for exposure was confirmed by the owner's radiation consultant and the contamination level was as high as 2,500 picoCuries per gram (pCi/g) total radium (Ra-226 + Ra-228) from a sample collected in the 1 to 3 feet below grade interval at boring # SB-11. Boring # SB-11 is towards the west side of the lot and probably the location identified in 2000 by U.S. EPA as being distinctively elevated. U.S. EPA's clean-up criterion for the Lindsay thorium contaminated soils is 7.1 pCi/g total radium. Utility workers and construction workers may have direct contact with thorium-contaminated soils. The public may contact thorium contaminated soils that are dispersed by wind or tracked offsite by heavy construction equipment and other vehicles. Persons who are exposed to thorium contaminated dust may suffer from increased lung disease, including lung cancer, and also pancreatic cancer.

b) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate:

As explained in the preceding Section II. Site Conditions and Background, past Action Memoranda corroborate the existence of radioactive thorium in soils near the surface. In 1936, the Lindsay Light Company (Lindsay) left Streeterville and moved to West Chicago, Illinois. In the early 1990s, U.S. EPA designated four National Priorities List sites due to the widespread thorium contamination in the West Chicago area and cleaned up over 670 homes, a 100-acre park, a sewage treatment plant and nearly eight miles of river. Similarly, widespread contamination may be present in Streeterville but may be more difficult to detect due to the presence of sidewalks, streets, and buildings that may shield buried contamination. The environmental consultant hired by the Trust estimates 500 cubic yards.

[1] Page 11, from a STS Consultants, Ltd., report dated September 11; 1992, prepared for the proposed Northwestern Memorial Hospital (Project #27313).

During construction activities at this property, workers will encounter radioactive thorium-contaminated soils. If appropriate health and safety precautions and radiological contamination management measures are not taken, the radioactive contamination will be subject to wind dispersal and tracking by heavy construction equipment and other vehicles to offsite areas. Also, if not properly identified, managed and disposed of, radioactively contaminated material may be excavated and transported off-site for disposal. At Grand Pier, the owner and developer did not radiologically investigate the property and as a result, hundreds of truckloads of contaminated material were shipped offsite for disposal at gravel pit that was to be developed into a residential subdivision.

c) Other situations or factors which may pose threats to public health or welfare or the environment:

Lindsay manufactured, at several locations in the Streeterville neighborhood of Chicago, gas lights and gas mantles for residential and commercial use beginning in approximately 1904. According to a U.S. Tariff Commission document on the Incandescent Gas-Mantle Industry published in 1920, in 1914 Lindsay expanded its thorium manufacturing capacity to meet the increased domestic and foreign demand caused by the outbreak of war in Europe. The production of thorium for the gas light mantles resulted in a sandy waste known as mill tailings that was often used as fill material. The November 1935 Lindsay Board of Directors' Meeting minutes discuss plans to move Lindsay's Streeterville operations to the City of West Chicago by September 1936. In West Chicago, Lindsay and its successors continued to produce thorium as well as other radioactive materials for commercial and defense-related purposes. As a result of Lindsay's thorium manufacturing and disposal activities in West Chicago, U.S. EPA listed four West Chicago area sites on the National Priorities List of Superfund Sites.

In the West Chicago area, U.S. EPA, with the assistance of the Illinois Emergency Management Agency, Division of Nuclear Safety (IEMA/DNS), formerly known as the Illinois Department of Nuclear Safety, IDNS, has overseen the clean-up of over 670 properties in residential areas, a 100-acre public park, a sewage treatment plant, and beginning in the Spring of 2005, the clean-up of nearly eight miles of creek and river in DuPage County. The widespread use of the thorium material as fill in West Chicago likely reflects a similar widespread use of the Lindsay Light thorium residuals in Chicago. Unlike the relatively open areas in the City of West Chicago where the extensive nature of the thorium contamination was relatively easy to identify, most of the Lindsay Light thorium was shielded from detection by asphalt, sidewalks, streets, and buildings.

IV. ENDANGERMENT DETERMINATION

Given the nature of the Site, the nature of the contaminants, specifically, radioactive materials that cause external exposure, inhalation, ingestion, and direct contact hazards, as described in Sections II and III, the actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action described in this Action Memorandum, may pose an imminent and substantial endangerment to

public health, or welfare, or the environment due to these radioactive materials. U.S. EPA believes, based on a review of the property developer's draft work plans, that the owner and developer will implement the necessary response action.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Thorium soils encountered at the Site must be fully remediated until maximum protectiveness of human health and the environment is achieved. This will involve at a minimum the following actions:

1) Develop a Work Plan for the radiological assessment of the site.

2) Develop and implement a site health and safety plan.

3) Develop and implement an air monitoring plan.

4) Develop and implement site security measures.

5) Conduct land surveying to the extent necessary to establish a grid system to locate all Property boundaries, special features (pipes, storage tanks, etc.), and sample locations.

6) Place borings in critical locations (grid corners, high exposure rate areas, special features, etc.) for the purpose of measuring subsurface radiation levels. Measurements shall be recorded at each 6 inch depth until the natural soils are reached or radiation levels reach background, whichever is the greatest depth.

7) Collect soil samples from the borings and analyze for radionuclide content and RCRA characteristics. These results will then be used by the PRP to correlate subsurface radiation levels and radionuclide content, and to determine the disposal facility.

8) Conduct off-site radiological surveying and sampling as necessary and, at a minimum implement 40 CFR 192 if deemed necessary should contamination be discovered beyond current site boundaries.

9) Based upon soil results, remove, transport, and dispose of all characterized or identified hazardous substances, pollutants, wastes, or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the U.S. EPA off-site rule.

10) The soil clean-up criterion is 7.1 picocuries per gram (pCi/g) total radium (Ra-226 + Ra-228) including background, unless analyses indicate the existence of additional contaminants, hazardous substances, pollutants or waste.

The OSC has begun planning for the provision of post-removal site control, consistence with the provisions of Section 300.415(k) of the NCP. However, because all of the thorium contamination present in at the site and in adjacent sidewalk rights-of-ways will

be identified and removed thereby eliminating exposure threats, the need for post-removal site control should not be necessary.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirments (ARARs)

All applicable or relevant and appropriate requirements (ARARs) of Federal law will be complied with to the extent practicable. The primary federal Applicable or Relevant and Appropriate Regulation for radioactive soil cleanup criteria is Title 40, Part 192 of the Code of Federal Regulations, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings." Ancillary ARARs include the Nuclear Regulatory Commission's (NRC) Title 10, Part 20, of the Code of Federal Regulations, "Standards for Protection Against Radiation," NRC Regulatory Guide 1.86, "Termination of Operating License for Nuclear Reactors," and the Department of Transportation's Title 49 for shipping hazardous materials. Relevant U.S. EPA guidance includes OSWER Directive No. 9200.4-25, issues February 12, 1998, regarding the "Use of Soil Cleanup Criteria in 40 CFR Part 192, as Remediation Goals for CERCLA Site."

Many of the regulations carried out by the NRC have been delegated to the Illinois Emergency Management Agency, Division of Nuclear Safety. The State has previously identified the regulations at 32 ILL. Administrative Code 332, Licensing Requirements for Source Material Milling Facilities which contain the licensing requirements for source material milling facilities in Illinois as relevant and appropriate the cleanup of thorium in Streeterville. The cleanup standard for soils and sediment at the Site derived from the foregoing federal and state regulations is 7.1 pCi/g combined radium.

U.S. EPA will also implement the principle of ALARA (As Low As Reasonably Achievable), which refers to the cleanup of all materials above the cleanup standard. ALARA is described in DOE and NRC orders and regulations and in U.S. EPA regulations at 40 CFR §192.22. U.S. EPA made the decision to achieve ALARA in an attempt to maximize protection of human health.

VI. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Delayed or non-action may result in increased likelihood of external exposure, inhalation, ingestion or direct contact to human populations accessing and working on the site. Also, since there is no threshold for radiological risk, additional exposure to radiological materials will increase the cancer risk.

VII. OUTSTANDING POLICY ISSUES

None

VIII. ENFORCEMENT

For Administrative purposes, information concerning confidential enforcement strategy for this Site is contained in the Enforcement Confidential Addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Lindsay Light II Site/Operable Unit 6 located at 245 East Ohio, in Chicago, Illinois, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for this site. Conditions at the Site meet the NCP Section 300.415 (b) (2) criteria for a removal action, you may indicate your decision by signing below.

APPROVE: _____ 10/7/06
Director, Superfund Division

DISAPPROVE: _____
Director, Superfund Division

Attachments: Enforcement Confidential Addendum
1. Environmental Justice Map
2. Index to the Administrative Record

cc: D. Chung, U.S. EPA, 5203-G
M. Chezik, U.S. Department of Interior, w/o Enf. Addendum
D. Scott, Illinois Environmental Protection Agency, w/o Enf. Addendum
S. Davis, Illinois Department of Natural Resources, w/o Enf. Addendum
B. Everetts, Illinois Environmental Protection Agency, w/o Enf. Addendum
K. Worthington, Chicago Department of Environment, w/o Enf. Addendum
B. Haller, Chicago Department of Planning and Development, w/o Enf. Addendum

BCC PAGE

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

(REDACTED 1 PAGE)

ENFORCEMENT CONFIDENTIAL ADDENDUM

LINDSAY LIGHT II SITE/OU 6
245-252 E. OHIO ST./242-256 E. GRAND AVE., CHICAGO, ILLINOIS

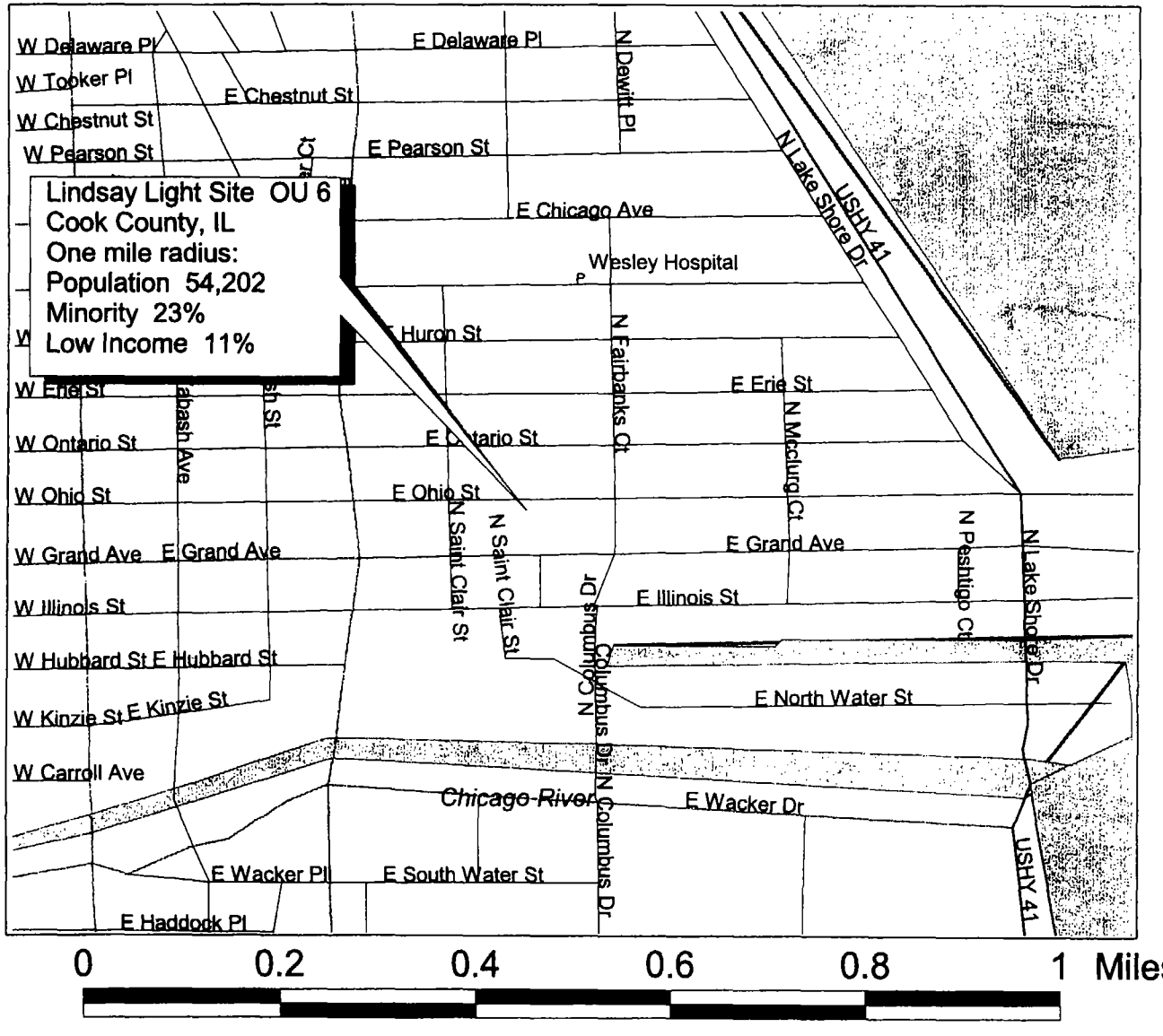
OCTOBER 2006

(REDACTED 2 PAGE)

ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY

Region 5 Superfund EJ Analysis

Lindsay Light Site OU 6 Chicago, IL



State of Illinois averages:
Minority: 32%
Low Income: 27%

U.S. EPA Region 5
Environmental Justice Case Criteria
for State of Illinois

Minority: 64% or greater

Low Income: 54% or greater

Date of Map: 7/11/06

Source of Map: Census 2000 Database/ ArcView 3.0

ATTACHMENT 2

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II SITE/245 EAST OHIO OPERABLE UNIT 6
CHICAGO, COOK COUNTY, ILLINOIS

ORIGINAL
OCTOBER 25, 2006

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	07/31/00	Arkell, R., U.S. EPA	Simon, V., U.S. EPA	E-Mail Transmission re: Ownership of the Parking Lot at 245 East Ohio St.	2
2	07/31/00	Simon, V., U.S. EPA	D'Ancona, A., D'Ancona & Company	Letter re: Walkover Survey at Parking Lot at 245 East Ohio St. w/Attachments	8
3	08/11/03	D'Ancona, A., D'Ancona & Company	U.S. EPA	Consent for Access to Property at 245 East Ohio St.	2
4	12/01/00	Simeon, V., U.S. EPA	D'Ancona, A., D'Ancona & Company	Letter re: September 28 & 29, 2000 Walkover Survey at East Ohio St. w/Attachments	9
5	12/04/02	Clegg, B., Conestoga-Rovers & Associates	Micke, F., U.S. EPA	Letter re: Property Investigation at 245 East Ohio St. w/Attachments	18
6	01/17/03	Carey, T., Bill Boyd & Loyd, LLC	Micke, F., U.S. EPA	Materials to Support the February 4, 2004 Meeting re: the Property at 245 East Ohio St. w/Cover Letter	220
7	01/28/03	D'Alcona, A.,	U.S. EPA	Declaration of Alfred E. D'Alcona III	6
8	01/28/03	Funkhouser, W., Funkhouser Vegosen Liebman & Dunn, LTD	Fulghum, M., U.S. EPA	Letter re: Response to U.S. EPA's Request to Provide Factual Substantiation as to Responsibility Under CERCLA for Cleanup Costs at 245 East Ohio St.	7
9	02/25/03		File	List of February 25, 2003 Meeting Attendees	1

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
10	02/01/04	Conestoga-Rovers & Associates	U.S. EPA	Removal Action Work Plan for the Fairbanks and Ohio Autopark	494
11	05/01/04	Micke, F., U.S. EPA	Clegg, B., Conestoga-Rovers & Associates	Letter re: Comments to the Removal Action Work Plan for the Fairbanks and Ohio Autopark	3
12	05/21/05	Micke, T., U.S. EPA	Clegg, B., Conestoga-Rovers & Associates	Letter re: Comments to the Removal Action Work Plan for 245 East Ohio St. w/Attachments	11
13	02/06/06	Funkhouser, W., Funkhouser Vegosen Liebman & Dunn, LTD	Fulghum, M., U.S. EPA	Letter re: Innocent Land-owner Assertion by LaSalle Bank N.A. Trust #39369	7
14	06/21/06	Funkhouser, W., Funkhouser Vegosen Liebman & Dunn, LTD	Nachowicz, L. U.S. EPA	General Notice Letter re: the Site at 245-52 East Ohio St./242-52 East Grand Avenue	4
15	06/20/06	Simon, V., U.S. EPA	Clegg, B., Conestoga-Rovers & Associates	Letter re: Comments to the Removal Action Work Plan for the Fairbanks and Ohio Autopark	9
16	06/21/06	Nachowicz, L., U.S. EPA	Funkhouser, W., Funkyouser Vegosen Liebman & Dunn, LTD for LaSalle Bank N.A. Trust #39369	General Notice of Potential Liability re: the Site at 245-52 East Ohio St./242-56 East Grand Avenue	9
17	06/27/06	Funkhouser, W., Funkhouser Vegosen Liebman & Dunn, LTD	Fulghum, M., U.S. EPA	Letter re: Request for Ex-tension of 45 Day Response Time to General Notice Letter for the Site at 242 East Ohio St.	2
18	07/14/06	Kerr-McGee International	Public	News Release: "Kerr-McGee Completes Separation of Tronox"	2